

**ABSTRACT**

A zone arc fault detection system for detecting arcing faults in a defined zone of an electrical circuit, such as an aircraft circuit, includes a pair of substantially identical parallel insulated conductors for each zone in which arcing is to be detected. A detection zone is defined by the parallel conductors between end points where the two conductors are coupled together. A current sensor is operatively associated with each pair of parallel conductors. The current sensor and conductors are respectively configured and arranged such that the current sensor produces a signal representative of a difference in current between the two conductors.